

BEFORE  
THE PUBLIC SERVICE COMMISSION OF  
SOUTH CAROLINA  
DOCKET NO. 2021-\_\_-E

In re:	)	
	)	
Application of Duke Energy Carolinas, LLC	)	APPLICATION OF DUKE ENERGY
for Approval of Smart Saver Solar as Energy	)	CAROLINAS, LLC FOR APPROVAL OF
Efficiency Program	)	SMART \$AVER SOLAR AS ENERGY
	)	EFFICIENCY PROGRAM
	)	

---

Pursuant to S.C. Code Ann. § 58-37-20, S.C. Code Ann. Regs. 103-823, and Order No. 2021-32 issued in Docket No. 2013-298-E, Duke Energy Carolinas, LLC (“DEC” or the “Company”) submits to the Public Service Commission of South Carolina (the “Commission”) this Application for approval of the Smart Saver Solar as Energy Efficiency Program (“Program”) to be included as part of its suite of energy efficiency (“EE”) and demand-side management (“DSM”) programs effective beginning January 1, 2022.

The proposed tariff for the Program is attached hereto as Exhibit A, and a proposed notice of the Application is attached hereto as Exhibit B. As explained below, the Company seeks approval of the Program without the need for a hearing because, consistent with S.C. Code Ann. § 58-27-870(F), the proposed Program and associated tariff do not require a determination of the entire rate structure and overall rate of return. If the Commission decides a hearing is necessary in this matter in lieu of filed comments, the Companies respectfully request the Commission to appoint a Hearing Officer to hold a scheduling conference with counsel.

In support of this Application, the Company respectfully shows the Commission the following:

1. The legal name and post office address of DEC is Duke Energy Carolinas, LLC, Post Office 1321 (DEC 45A), Charlotte, North Carolina 28201-1006.

2. The name and addresses of the attorneys of the Company who are authorized to receive notices and communications with respect to this Application are:

Heather Shirley Smith  
Deputy General Counsel  
Duke Energy Corporation  
40 West Broad Street, Suite 690  
Greenville, South Carolina 29601  
Telephone: 864.370.5045  
heather.smith@duke-energy.com

and

Samuel J. Wellborn  
Counsel for Duke Energy Carolinas, LLC  
ROBINSON GRAY STEPP & LAFFITTE, LLC  
1310 Gadsden Street  
Post Office Box 11449  
Columbia, South Carolina 29211  
Telephone: 803.231.7829  
swellborn@robinsongray.com

Copies of all pleadings, orders or correspondence in this proceeding should be served upon the attorneys listed above.

3. DEC is engaged in the generation, transmission, distribution, and sale of electric energy at retail in the western portion of South Carolina and the central and western portions of North Carolina. DEC also sells electricity at wholesale to municipal, cooperative, and investor-owned electric utilities, and its wholesale sales are subject to the jurisdiction of the Federal Energy Regulatory Commission. DEC is a public utility under the laws of South Carolina and is subject to the jurisdiction of this Commission with respect to its operations in this State. DEC is also authorized to transact business in the State of North Carolina and is a public utility under the laws of that state. Accordingly, its operations in North Carolina are subject to the jurisdiction of the

North Carolina Utilities Commission (“NCUC”). Because energy efficiency programs deliver system benefits realized across state borders, program costs—including consolidated administrative costs—are also recognized across both states. To support the Program’s cost-effectiveness and to enable Program costs to be recovered according to the allocation of benefits, approval by this Commission and the NCUC is necessary prior to the Company offering the Program to its customers.

4. The Program is the result of collaboration with the Southern Environmental Law Center—on behalf of South Carolina Coastal Conservation League, Southern Alliance for Clean Energy, and Upstate Forever—the North Carolina Sustainable Energy Association, Sunrun Inc., Vote Solar, and Solar Energy Industries Association.

5. The purpose of the Program is to encourage reductions in energy consumption by incentivizing the installation of solar photovoltaic (“PV”) facilities at residential premises. To that end, the Program is designed to reduce financial barriers and promote adoption and installation of PV facilities for eligible customers through an energy efficiency program akin to programs for other home equipment like high efficiency heat pumps and water heaters. Just as the Company encourages the installation of energy efficient equipment through rebates and incentives such as the ones given for heat pumps or water heaters—pursuant to S.C. Code Ann. § 58-37-20, as discussed below—the Program would defray the upfront costs of solar PV by providing an incentive reflective of the system benefits that such installations provide.

6. The Program is designed to incentivize new residential rooftop solar PV installations for the purpose of reducing behind-the-meter customer energy consumption while not reducing function for the customer. To that end, DEC proposes to offer an incentive for each new watt of solar PV installed by customers eligible for service under rate Schedule RE within the

Solar Choice Program. The Program's availability is being limited to rate schedule RE in order to support the Program's cost-effectiveness, as RE is the all-electric residential rate schedule and ensures that customers with gas service for water heating, cooking, clothes drying, and environmental space conditioning do not apply. Pursuant to the agreement referenced above, and to reflect the value of the anticipated savings, the Company proposes an upfront rooftop solar incentive of \$0.36/Watt-DC. The incentive may be assigned to a solar leasing company if the customer is in a lease arrangement or to an installer, at the customer's direction. The proposed tariff associated with the Program is attached hereto as Exhibit A.

7. The Company proposes that a customer receiving a Solar EE incentive be required to remain in the Program for 25 years and also enroll in the winter-focused Power Manager Load Control Service Rider, also known as Bring Your Own Thermostat ("Winter BYOT Program"). In Order No. 2020-831, Docket No. 2013-298-E, the Commission approved the establishment of the Winter BYOT Program, which provides for winter-focused demand response. The combination of the two programs provides programmatic synergies and enables the Program to provide both energy and capacity savings. If the customer unenrolls from the Winter BYOT Program or opts out of more demand response events than the Winter BYOT Program allows, the customer must repay a prorated share of the initial Solar EE incentive for every year the allowance is exceeded. There would be no penalty if a customer moves out of the residence prior to the expiration of the 25-year time period. Consistent with the Company's existing EE/DSM programs that require installation of more complicated EE/DSM measures (e.g., HVAC, duct insulation and repair, air sealing, etc.), to align this program with the Residential Smart Saver program, and to support the achievement of higher cost savings and EM&V results, the proposed tariff requires that installations be performed by an approved contractor.

8. S.C. Code Ann. § 58-37-20 authorizes the establishment of the EE/DSM Mechanism recently adopted by the Commission through Order No. 2021-32 issued in Docket No. 2013-298-E. That code section also provides that such mechanisms or “procedures” “must[] provide incentives and cost recovery for energy suppliers and distributors who invest in **energy supply and end-use technologies** that are cost-effective, environmentally acceptable, and reduce energy consumption or demand . . . .” (emphasis added). S.C. Code Ann. § 58-27-20 further provides that, “[f]or purposes of this section only, the term ‘demand-side activity’ means a program conducted by an electrical utility . . . for the reduction or more efficient use of energy requirements of the utility or its customers including, but not limited to, utility transmission and distribution system efficiency, customer conservation and efficiency, load management, cogeneration, and **renewable energy technologies**.” (emphasis added). The Company believes that the Program proposed in this Application comports with S.C. Code Ann. § 58-27-20 in that solar PV facilities are “energy supply and end-use technologies” that are “cost-effective, environmentally acceptable, and reduce energy consumption or demand,” and also because the statute defines EE/DSM programs to specifically include those implemented “for the reduction or more efficient use of energy requirements of the utility or its customers including, but not limited to, . . . renewable energy technologies.” Solar PV as an EE measure fits squarely within these parameters set forth by the General Assembly in the EE/DSM statute, and the Company notes that Duke Energy Progress, LLC previously offered a solar water heating pilot program under its suite of EE/DSM programs.<sup>1</sup>

---

<sup>1</sup> See Solar Water Heating Pilot Program Final Report, Docket No. 2009-190-E (May 2, 2014).

9. Section A of the Company's EE/DSM Mechanism, appended to Order No. 2021-32 as part of Order Exhibit No. 1, requires that the Company "perform a qualitative measure screening to ensure Measures are: (a) commercially available and sufficiently mature, (b) applicable to the DEC service area demographics and climate, and (c) feasible for a utility DSM/EE Program." Solar PV is commercially available and sufficiently mature, applicable to the Company's service area demographics and climate, and feasible for a EE/DSM program inasmuch as solar PV is routinely installed on the Company's system and the proposed Program passes the applicable cost-effectiveness screen as discussed below. Consistent with the EE/DSM Mechanism, the Program was introduced to and discussed with stakeholders in the EE/DSM Collaborative.

10. The Company has modeled the Program's cost effectiveness, and the Utility Cost Test ("UCT") score is 2.58. As required by the EE/DSM Mechanism, the Program exceeds the required 1.0 UCT score necessary, indicating that the benefits to the utility system exceed the costs. In addition to demonstrating that the utility system benefits outweigh the cost of the Program, the accepted EE cost-effectiveness screens also indicate that there will be little to no subsidization of participants in the program from non-participants. The previously applicable Total Resource Cost ("TRC") test, which also assesses the participating customer's costs and benefits in addition to the utility's, is lower at 0.86 due to the high cost of solar PV.<sup>2</sup> However, as customer costs decrease over time, the TRC score is expected to improve. Furthermore, the TRC does not include the intangible benefits of customer energy independence and resiliency, and

---

<sup>2</sup> As an EE program, this evaluation counts only energy consumed behind the meter in cost-effectiveness testing and energy savings calculations.

environmental responsibility, which are often important parts of a customer's motivation for installing solar PV.

11. The projected savings will be confirmed in evaluation, measurement, and verification ("EM&V") by a third party, consistent with the guidelines outlined in the EE/DSM Mechanism,<sup>3</sup> once adequate participation allows for a statistically valid sample. EM&V studies will use industry-accepted methods to collect and analyze data; measure and analyze Program participation; and evaluate, measure, verify, and validate the energy and peak demand savings. Methodologies such as site metering and smart meter consumption analysis may be utilized. As a component of the EM&V process evaluation, the Company will direct the evaluator to conduct a broad survey of both participating and non-participating residential customers to assess their acceptance of the Smart Saver Solar Program. While an EM&V schedule cannot be determined until adequate participation is achieved, tentative participation targets indicate that an EM&V evaluation could be possible approximately a year after initial Program implementation. DEC has not yet identified the independent third party it plans to use for purposes of EM&V; however, EM&V costs are estimated not to exceed 5% of total Program costs. More specific EM&V costs will be included in the next annual rider filing.

12. In light of the customer and system benefits of the Program, and its accord with the Commission-approved EE/DSM Mechanism, the Company requests Commission approval of the Program for an effective date of January 1, 2022, and proposes to recover all costs incurred by the Company associated with the Program through the Company's EE/DSM rider in accordance with the EE/DSM Mechanism. Upon approval of the Program by this Commission and the NCUC, the

---

<sup>3</sup> See Order No. 2021-32, Docket No. 2013-298-E (Jan. 15, 2021).

Company will complete its implementation plans and make the Program available to customers on January 1, 2022.

13. The Company seeks Commission approval of the Program without the need for pre-filed testimony or a hearing. Consistent with S.C. Code Ann. § 58-27-870(F), the proposed Program and associated tariff do not require a determination of the entire rate structure and overall rate of return.

WHEREFORE, Duke Energy Carolinas, LLC respectfully requests that, pursuant to this Application and the provisions of S.C. Code Ann. § 58-37-20, S.C. Code Ann. Regs. 103-823, and Order No. 2021-32, the Commission:

- (1) Approve the Program effective January 1, 2022, as proposed herein, without the need for pre-filed testimony or a hearing;
- (2) Grant the Company's request to recover all reasonable and prudent costs incurred associated with the Program pursuant to the EE/DSM Mechanism through the annual EE/DSM rider proceedings; and
- (3) Provide any other relief deemed just and reasonable by the Commission.

Respectfully submitted this 23<sup>rd</sup> day of April, 2021.

Heather Shirley Smith  
Deputy General Counsel  
Duke Energy Corporation  
40 West Broad Street, Suite 690  
Greenville, South Carolina 29601  
Telephone 864.370.5045  
heather.smith@duke-energy.com

s/ Samuel J. Wellborn  
Samuel J. Wellborn  
ROBINSON GRAY STEPP & LAFFITTE, LLC  
1310 Gadsden Street  
Post Office Box 11449  
Columbia, South Carolina 29211



Telephone: 803.231.7829  
swellborn@robinsongray.com

*Attorneys for Duke Energy Carolinas, LLC*

## SMART \$AVER SOLAR ENERGY EFFICIENCY PROGRAM (SC)

ELIGIBILITY

This Program is available to residential customers who meet all electric water heating and space conditioning requirements for Schedule RE and who install and operate a solar photovoltaic (PV) electric generating system. The solar PV system may either be owned by the Customer or by a lessor and leased to the Customer. The capacity rating of the system shall be no greater than 20 kilowatts AC.

To be eligible to participate in the Program and receive the incentive ("Rooftop Incentive"), the Customer must comply with all of the following:

- The Customer must become a new net metering customer on or after January 1, 2022,
- The Customer must be eligible for and participate in the Winter-focused option of the Power Manager Load Control Service program ("Rider PM") with a Customer-provided eligible Thermostat, and
- The Customer must comply with all installation and interconnection requirements of the proposed Residential Solar Choice rider ("Rider RSC").

Customers who are not willing or able to install a qualified smart thermostat and enroll in the Winter-focused option of Rider PM, or who are not willing or able to take service under Rider RSC, are not eligible for the Rooftop Incentive.

Participation under the Program is available, at the Company's sole discretion, on a "first come, first served" basis for systems installed on and after January 1, 2022.

APPLICATION REQUIREMENTS

The Customer must complete and submit an application for the Rooftop Incentive as instructed on the Company's website at [www.duke-energy.com](http://www.duke-energy.com). The solar PV system shall be subject to inspection by the Company for the purposes of program evaluation, measurement, and verification.

ROOFTOP INCENTIVE PAYMENT

Upon confirmation of compliance with all eligibility requirements, the Company will provide to the Customer a one-time Rooftop Incentive payment based upon the direct current (DC) nameplate rating of the Customer's solar PV system.

- The Rooftop Incentive may be assigned to a solar installer or leasing company if the customer is in a lease arrangement.
- The Company reserves the right to adjust the incentive on a periodic basis, as appropriate, to reflect changes to efficiency standards and market conditions.
- The Company reserves the right to limit the availability of incentives by the type of residential structures required to ensure achievement of energy savings.
- The current amount of the incentive payment will be posted to the Company's website at [www.duke-energy.com](http://www.duke-energy.com). The amount of the incentive will not exceed \$0.36/Watt-DC.
- All systems eligible for payment under this program must be installed based on manufacturer's recommendations and the Company's specifications, including installation by a Company-approved contractor. Detailed requirements are available on the Company's website at [www.duke-energy.com](http://www.duke-energy.com).
- Incentives may be limited to one of any product, per residence, under all Company Energy Efficiency Programs.
- Customer solar PV systems must meet the performance requirements and parameters set by Duke Energy. (See General Requirements section.)

CONTRACT PERIOD

Customers receiving the Rooftop Incentive must contract to remain on Rider RSC (or future applicable net metering rider) and remain enrolled in the Winter-focused option Rider PM for a period of twenty-five (25) years.

If a customer opts out of more events than Rider PM allows in any year, the customer will be charged a \$200 fee representing an annual prorated share of the Rooftop Incentive (average customer incentive divided by 25 years). If a customer unenrolls in the Winter-focused option of Rider PM, the customer must pay back \$200 for each year of the 25-year contract period that the customer

## SMART \$AVER SOLAR ENERGY EFFICIENCY PROGRAM (SC)

is not enrolled, not to exceed the customer's initial incentive payment amount. The penalties for early termination will not be assessed if the termination is due to Force Majeure or the Customer's sale of the residence.

The Company reserves the right to terminate service and request payment of the above termination charge any time upon written notice to the Customer in the event that the Customer violates any of the terms or conditions of this Program, or operates the solar PV system in a manner which is detrimental to the Company and/or its customers. The Company may also terminate service under this Program and request repayment of the Rooftop Incentive if the Customer intentionally misstates or misrepresents the operating capacity or operating characteristics of the solar PV system.

ENVIRONMENTAL ATTRIBUTES

Incentives and other considerations offered under the terms of this Program are understood to be an essential element in the recipient's decision to participate in the Program. Upon payment of these considerations, the Company will be entitled to any and all environmental attributes, including but not limited to "renewable energy certificates" (RECs), "renewable energy credits" or "green tags," associated with the solar PV generation system and any and all environmental, energy efficiency, and demand reduction benefits and attributes, including all reporting and compliance rights, associated with participation in the Program.

GENERAL

Duke Energy will establish performance requirements deemed necessary to ensure achievement of minimum energy savings for equipment, products, and services offered for incentives, including but not limited to direction, orientation, shade, and any other factor affecting output. Parameters related to these performance requirements may include, but are not limited to, diagnostic testing, size of conditioned area, building/structure type, energy reduction achievement, installer/installation, and product selection. All requirements and parameters must be met prior to payment of Rooftop Incentive.

**PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA****CLERK'S OFFICE****NOTICE OF FILING****DOCKET NO. 2021-\_\_\_\_-E****Application of Duke Energy Carolinas, LLC for Approval of Smart Saver Solar as Energy Efficiency Program**

Duke Energy Carolinas, LLC (the Company or DEC) has filed an Application for approval of the Smart Saver Solar as Energy Efficiency Program (Program) to be included as part of its suite of energy efficiency (EE) and demand-side management (DSM) programs effective beginning January 1, 2022. As described in more detail in the filed Application, the purpose of the Program is to encourage reductions in energy consumption by incentivizing the installation of solar photovoltaic facilities at residential premises. To that end, the Program provides eligible residential net metering customers the opportunity to receive an incentive as compensation for the reduction in energy consumption that the installation and use of solar PV facilities enable. The Company's proposal would require participants to remain the Program for 25 years and to enroll in the Bring Your Own Thermostat Program. The Company proposes that the costs incurred by the Company associated with the Program be recovered through the Company's EE/DSM rider.

The Application was filed pursuant to S.C. Code Ann. § 58-37-20, S.C. Code Ann. Regs. 103-823, the Rules of Practice and Procedure of the Commission, and Order No. 2021-32. A copy of the company's Application can be found on the Commission's website at [www.psc.sc.gov](http://www.psc.sc.gov) under Docket No. 2021-\_\_\_\_-E. Additionally, a copy of the Application is available from the corporate office of Heather Shirley Smith, Deputy General Counsel, Duke Energy Corporation, 40 West Broad Street, Suite 690, Greenville, South Carolina 29601 and Samuel J. Wellborn, Esquire, ROBINSON GRAY STEPP & LAFFITTE, LLC, 1310 Gadsden Street, Columbia, South Carolina 29201. Any person who wishes to participate in this matter as a party of record, should file a Petition to Intervene in accordance with the Commission's Rules of Practice and Procedure on or before [DATE], by filing the Petition to Intervene with the Commission, by providing a copy to the Office of Regulatory Staff and by providing a copy to all parties of record. For the receipt of future Commission correspondence, please include an email address in the Petition to Intervene. Please refer to Docket No. 2021-\_\_\_\_-E and mail a copy to all other parties in this docket. Any person who seeks to intervene and who wishes to testify and present evidence at the hearing, if scheduled, should notify, in writing, the Commission; the Office of Regulatory Staff at 1401 Main Street, Suite 900, Columbia, South Carolina 29201; and the Company at the above address, on or before \_\_\_\_\_. Please refer to Docket No. 2021-\_\_\_\_-E.

A public hearing, if scheduled, will be held virtually or in Columbia, South Carolina in the offices of the Commission located at 101 Executive Center Drive, Suite 100, Columbia, South Carolina 29210, for the purpose of receiving testimony and other evidence from all interested parties regarding this Application. The time and date of this hearing will be furnished to all interested parties at a later date.

**PLEASE NOTE THAT INTERVENOR COMMENTS REGARDING DUKE ENERGY CAROLINAS, LLC'S FILING ARE DUE ON OR BEFORE \_\_\_\_\_, 2021. INTERESTED PERSONS MAY REQUEST IN WRITING PERMISSION FROM THE PUBLIC SERVICE COMMISSION TO FILE COMMENTS AFTER \_\_\_\_\_, 2021. COMMENTS MUST BE FILED WITH THE COMMISSION AT THE ADDRESS LISTED BELOW, AND A COPY OF THE COMMENTS MUST BE SERVED ON ALL OF THE PARTIES OF RECORD IN DOCKET NO. 2021-\_\_\_\_-E.**

**If the Application or Petition in this case contains a request for adjustment of rates, the rates are subject to potential modification by the Commission during the course of this case.**

For the most recent information regarding this docket, including changes in scheduled dates included in this Notice, please refer to [www.psc.sc.gov](http://www.psc.sc.gov) and Docket No. 2021-\_\_\_\_-E. Persons seeking information about the Commission's procedures should contact the Commission at (803)896-5100 or visit its website at [www.psc.sc.gov](http://www.psc.sc.gov).